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===== Calibration Procedure ======
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Equipment:

RadiSys EMC or EPC system including CPU, video adapter, monitor, keyboard and disk drive

Non-metalic slotted calibration tool

Male DB-25 connector with reference voltage connections (See Chapter 3, Selecting Output Ranges, page ??) or other reference input.

Digital Volt Meter (DVM) and Digital Current Meter (DCM) accurate to 5 digits

Voltage source capable of sourcing up to 10ma at 8V or greater.

MS-DOS and DOS DEBUG utility.

Procedure:

Note: This procedure is written assuming that the internal reference generators will be used (either -5V or -10V). If an external reference is to be used, the calibration voltages will need to be calculated using:

Vref0 = External Reverence Voltage for DAC #0
Vref1 = External Reverence Voltage for DAC #1
1LSB = -Vref/4096

1. Install the EXM-21 into the RadiSys computer system and configure the BIOS setup screen. (See Section 2) (All DEBUG programming examples will asume the EXM-21 base address is at 248h.)

   Install the Male DB-25 connector.

2. Power up the RadiSys computer sytem and run DEBUG.

3. Program DAC #0 and DAC #1 to 4095. In debug, type:
   -o 248 ff
   -o 249 ff
   -o 25a ff
   -o 25b ff

4. Connect the DVM (+) lead to the DB-25 at pin 24.
   Connect the DVM (-) lead to the DB-25 at pin 2.

5. Adjust FSAJ0 on the EXM-21 front pannel until the DVM reads -Vref0 - 1LSB (4.99878 for -5Vref, 9.99756 for -10Vref).

6. Connect the DVM (+) lead to the DB-25 at pin 18.
Connect the DVM (-) lead to the DB-25 at pin 2.

7. Adjust FSAJ1 on the EXM-21 front pannel until the DVM reads -Vref1 - 1LSB (4.99878 for -5Vref, 9.99756 for -10Vref).

8. Program DAC #0 and DAC #1 to 0. In debug, type:

```
-o 248 0
-o 249 0
-o 25a 0
-o 25b 0
```

9. Connect the DCM (+) lead to the Voltage source output.
Connect the DCM (-) lead to the DB-25 at pin 25.
Connect the Voltage source ground to the DB-25 at pin 2.

10. Adjust CLAJ0 on the EXM-21 front pannel until the DVM reads 4.000 ma.

11. Connect the DCM (+) lead to the Voltage source output.
Connect the DCM (-) lead to the DB-25 at pin 19.
Connect the Voltage source ground to the DB-25 at pin 2.

12. Adjust CLAJ1 on the EXM-21 front pannel until the DVM reads 4.000 ma.

13. The EXM-21 is now calibrated. Turn off the power to the RadiSys computer system and remove the EXM-21.

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